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ABSTRACT

This paper addresses some issues concerning the use of written instruments for measuring health behavior change. A description is given of the Health Behavior Risk Factor Prevalence Survey which was developed to identify group members' risk-taking behaviors. This instrument was used to measure the health behaviors of a group of employees in the areas of seat belt use, exercise behaviors, frequency of exercise, and duration and type of exercise. Data analysis results are discussed and suggestions are made for intervention progams that will increase desirable behavior. (JD)

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The Measurement of Health Behavior Change:

The Health Behavior Risk Factor Prevalence Instrument

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The Measurement of Health Behavior Change:

The Health Behavior Risk Factor

Prevalence Instrument

Introduction

The improvement of the health status of both individuals and communities has encouraged a wide variety of behavioral change programmatic efforts. These health promotion activities generally are targeted at harmful lifestyle behaviors such as cigarette smoking, alcohol and drug abuse, inadequate/ inappropriate diet, sedentary patterns in daily living activities, high stress levels, or personal injuries caused by accidents.

Behavioral changes are generally measured using either a written instrument, physiological testing (body weight, blood pressure, resting pulse rate, etc.) or a combination of written instruments and physiological testing. Addressed in this paper are some issues concerning the use of some written instruments for measuring behavior change.

The Use of Written Instruments

During the last several years, the Centers for Disease Control Health Risk Appraisal (HRA) has been the major written instrument used in the collection of behavioral data. However, the instrument was originally designed as an educational intervention and not for measuring fine behavioral change data over time. For example, the HRA requests information related to physical activity level, but neglects to request information concerning exercise type, duration, or intensity. Information such as this, is needed for adequate program planning, marketing, implementation, and evaluation activities.

The Health Behavior Risk Factor Prevalence Survey (HBRFPS), a jury validated instrument was developed in order to identify group members risk taking behavior. Measured are behaviors related to seat belt use, blood pressure history, exercise patterns, nutritional practices, drug use patterns, and chronic disease/disorders history and preventive activities. Specific demographic characteristics requested include age, race, educational level, marital status, occupation, income level, and household size.

Applications of the Health Behavior Risk Factor Prevalence Survey

This instrument can be used as a part of a needs assessment process, since specific client demographic information and health behaviors data can be easily gathered. For example found in Table 1 is hypothetical seat belt data.

Table 1 here

Analysis of the 1983 data indicates that 67 percent of Chuck's Coggs employees seldom and sometimes used their seat belts. The results of the data analysis indicates that the intervention program should include a seat belt educational program, the establishment of seat belt policy use in company vehicles, or a financial incentive seat belt use program. One year later, the HBRFPS could be readministered and hypothetical data analysis could indicate that 24.2 percent of the respondents reported always using their seat belts. Therefore, based upon this data, the program could claim a 100 percent increase in employee seat belt use. Additionally, the data could be further strengthened if a control group were used for comparison purposes, or if similar shifts in employee attitudes

were noted. Finally, a comprehensive evaluation plan that utilizes a variety of measurement techniques, can hopefully document the intervention program's effect(s) upon a specific target population.

Another hypothetical example of instrument use is for measuring physical fitness behavior. Needed is data related to exercise type (Table 2), exercise frequency (Table 3), and exercise deviation (Table 4).

Tables 2/3/4 about here

For example, fifty-one percent of Chucks Coggs employees claimed to participate in aerobic exercise. However, only 11 percent exercised three or more times per week (Table 3). The remaining 40 percent of the employees did not report participating in significant beneficial aerobic exercise. Additional, 26 percent of the respondents exercised less than 15 minutes (Table 4). Based upon these hypothetical data, the intervention program might include a cardiovascular health education instructional unit, formation of several jogging clubs, development of an exercise parcourse, initiation of a cash incentive program, or organizing short bicycle trips during lunch or after work.

The instrument too, may be used to compare data from an exercise group and a control group, as indicated in Table 5.

Table 5 about here

The exercise group data analysis indicated a 19 percent aerobic exercise participation increase from 1983 to 1984. Further, there was a 15 percent and 13 percent increase in the number of runners and cyclists, respectively. However, the aerobic category data remained the same. Further, exercise group aerobic program successes are strengthened when comparing control group and exercise group data. Noted should be the control groups lack of change over time in any exercise category. Additionally, frequency and duration data further strengthens the success of the intervention program.

In conclusion, an alternative risk taking behavior instrument has been developed for research and programmatic purposes that has been utilized successfully in several different populations in the settings of public health, college, and industry.

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Table 1. Chuck's Coggs Employee Seat Belt Use

Frequency of Use	(%) Respondents	
	June, 1983	June, 1984
Never	00.0	00.0
Seldom	52.2	40.1
Sometimes	14.9	14.9
Nearly Always	20.6	20.6
Always	12.1	24.2

Table 2. Chuck's Coggs Employee Exercise Behaviors

Exercise Type	(%) Respondents June, 1983
Aerobic-Running	12
Cycling	16
Walking	23
Anaerobic-Gardening	6
Weight lifting	0
Other	5
None	38

Table 3. Chuck's Coggs Frequency of Exercise

Frequency of Exercise	(%) Respondents
No times	38
Once in awhile	3
1 time weekly	27
2 times weekly	20
3 times weekly	7
4 times weekly	3
5 or more times weekly	1

Table 4. Chuck's Coggs Duration of Exercise

Duration of Exercise	(%) Respondents
No time	38
15 minutes or less	26
15 - 30 minutes	5
30 - 45 minutes	10
45 - 60 minutes	8
60 - 90 minutes	7
90 minutes or more	5

Table 5. Chuck's Coggs, Employee Exercise Behaviors

Exercise Type	(%) Respondents			
	Exercise Group		Control Group	
	6/83	6/84	6/83	6/84
Aerobic				
Running	12	27	11	12
Cycling	16	29	13	13
Walking	23	14	20	22
Anaerobic				
Gardening	6	7	1	1
Weight lifting	0	0	1	1
Other	5	5	6	6
None	38	18	39	37

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